IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: Martin Imhof	)	Before the Examiner: Marcia Hoffman
Application No. 10/596,752	)	Group Art Unit: 3774
Filed: December 8, 2008	)	Ref. No.: SMNE-5/ PT-3464-US-PCT
JOINT SOCKET FOR A HIP ENDOPROSTHESIS	)	

REPLY BRIEF

Board of Patent Appeals and Interferences
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

In response to the Examiner's Answer dated August 17, 2011, this Reply Brief is respectfully submitted in accordance with 37 CFR § 41.41. This Reply Brief is being filed within two (2) months of the mailing date of the Examiner's Answer, and is therefore considered to be timely filed. No fees or extensions of time are believed to be due with regard to entry and consideration of this Reply Brief. However, please charge any fees which may be necessary to Deposit Account No. 12-2424, but not to include payment of any issue/publication fees.

STATUS OF CLAIMS

Claims 1-4 have been cancelled, claim 11 has been withdrawn from consideration, and claims 5-10 and 12-34 are on appeal and currently stand rejected under 35 U.S.C. § 112, second paragraph, 35 U.S.C. § 102(b), 35 U.S.C. § 103(a), and/or nonstatutory obviousness-type double patenting.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 5-10, 12-29, 34 and 35 are unpatentable under 35 U.S.C. § 112, second paragraph.

B. Whether claims 5-10, 12, 14-17 and 19-35 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0068980 to Serbousek et al.

C. Whether claim 13 is unpatentable under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2002/0068980 to Serbousek et al. in view of U.S. Patent No. 4,997,447 to Shelley.

D. Whether claim 18 is unpatentable under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2002/0068980 to Serbousek et al.

E. Whether claims 5-25 are unpatentable on the grounds of nonstatutory obviousness-type double patenting.

ARGUMENT

The Real Party in Interest, Related Appeals and Interferences, Status of Claims, Status of Amendments, Summary of Claimed Subject Matter, and Grounds of Rejection to be Reviewed on Appeal remain as presented in the Appeal Brief. Additionally, all arguments and positions submitted in the Appeal Brief are re-iterated and incorporated herein. This Reply Brief is in response to the comments and positions set forth in the Examiner's Answer presented in Section (10) entitled Response to Argument. (See pages 10-14 of the Examiner's Answer).

The Examiner has withdrawn the rejection of claims 5, 12-20 and 26-35 under 35 U.S.C. § 112, second paragraph, based on the previous assertions that claims 5, 19 and 34 lack clarity in view of the recitation of "a radius of curvature", and that claim 12 lacks clarity based on the recitation directed to allowing free rotation and tilting of the socket insert in the socket shell. (See page 4, lines 3-10 of the Examiner's Answer). However, the rejection of claims 6 and 21 under 35 U.S.C. 112, second paragraph, has been maintained in view of the recitation of "an infinite radius of curvature". (See page 5, lines 4-6 and page 10, lines 14-20 of the Examiner's Answer). Additionally, the rejection of claims 5-10, 12, 14-17 and 19-35 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No. 2002/0068980 to Serbousek et al. (hereafter "Serbousek"), the rejection of claim 13 under 35 U.S.C. § 103(a) over Serbousek in view of U.S. Patent No. 4,997,447 to Shelley, and the rejection of claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Serbousek have been maintained. (See page 5, line 7 to page 9, line 19; and page 10, line 21 to page 13, line 15 of the Examiner's Answer). Furthermore, the provisional rejection of claims 5-25 on the grounds of nonstatutory obviousness-type double patenting has also been maintained. (See page 9, line 20 to page 10, line 12 of the Examiner's Answer).

As an initial matter, the Appellant notes that the Examiner's listing of claims 5-10, 12-29, 34 and 35 as being rejected under 35 U.S.C. § 112, second paragraph, appears to be in error. (See page 5, lines 1-6 of the Examiner's Answer). Notably, since claims 6 and 21 and the claims depending therefrom are the only claims that make reference to "an infinite radius of curvature", the current rejections under 35 U.S.C. 112, second paragraph, should have been limited to claims 6 and 21 and the claims depending therefrom. Accordingly, the Appellant submits that the only claims that remain rejected under 35 U.S.C. 112, second paragraph, are claims 6-10 and 21-25.

Contrary to the positions taken by the Examiner regarding the rejection of independent claims 5, 19, 30 and 34 as being anticipated by Serbousek, the Appellant notes that each of the pending independent claims recites one or more features that are clearly not disclosed by Serbousek. Although these features have been referred to during prosecution of the subject application and/or in the Appeal Brief, in order to promote clarity and a further understanding of the Appellant's position, several of the features not found in the Serbousek device will be summarized in support of the Appellant's position that independent claims 5, 19, 30 and 34 are not anticipated by Serbousek.

First, with regard to the liner 14 positioned within the shell 12 of the Serbousek device, Serbousek discloses that "*[t]apers 30, 44* [of shell 12 and liner 14] may be a straight taper . . . or *they* may be as a curve." (See paragraph [0034]; emphasis added). The Examiner contends that this language discloses that one of the tapers 30, 44 may be configured as a straight taper (i.e., having an infinite radius of curvature), and the other taper 30, 44 may comprise a curved taper (i.e., having a radius of curvature less than that of the straight taper). The Appellant respectfully disagrees. Indeed, a fair reading of the cited language instead discloses that both of the tapers 30, 44 may define a straight taper, or they both may define a curved taper. (Note the language that the "*[t]apers 30, 44* may be a straight taper . . . or *they* may be as a curve").

Contrary to the Examiner's contention, there is absolutely no teaching or indication in Serbousek that one of the tapers 30, 40 defines a straight taper while the other defines a curved taper. This conclusion is bolstered by the very next sentence in Serbousek which dictates that "[i]f the taper 44 of outside surface 32 of liner 14 is straight, taper 30 of side wall 26 of shell 12 is also straight". (See paragraph [0034]). The Examiner's Answer does not address and appears to have entirely ignored this expressed teaching of Serbousek. Furthermore, this expressed teaching directly refutes the Examiner's assertion that "it is within the scope of the disclosure [of Serbousek] to have a spherical outer surface of an insert in self-locking contact with a straight inner surface of an acetabular shell as the line of contact". (See page 5, lines 19-20 of the Examiner's Answer). Indeed, as expressly stated in Serbousek, if one of the tapered surfaces of the Serbousek device is straight, then the other must also be straight.

Notably, independent claim 30 and dependent claims 6, 21 and 35 each recite that the tapered inner surface of the socket shell is conical (i.e., defining a straight taper) whereas the tapered outer surface of the socket insert is spherical (i.e., defining a curved taper). These claims

are clearly not anticipated by Serbousek in view of the expressed teaching in paragraph [0034] that "[i]f the taper 44 of outside surface 32 of liner 14 is straight, taper 30 of side wall 26 of shell 12 is also straight".

Second, the expressed teaching in paragraph [0035] of Serbousek that "tapers 30, 44 are machine tapers that provide a connection that ensures . . . accurate alignment between shell 12 and liner 14" indicates that there is but one "accurate alignment" between the shell 12 and the liner 14. As a result, the tapers 30, 44 must be provided with matching tapered surface contours to ensure this predetermined accurate alignment between the shell 12 and the liner 14. In other words, the mating tapers 30, 44 must necessarily be equal and configured identical to one another to ensure a single predetermined accurate alignment between the shell 12 and the liner 14. Indeed, if the taper 30 were provided with a radius of curvature greater than a spherical radius of the taper 44, then the liner 14 could be variably oriented at multiple alignments relative to the shell 12 (and not limited to a single "accurate alignment") prior to being interlocked with one another.

Notably, independent claims 5, 19 and 34 each recite that the inner surface of the socket shell defines a radius of curvature that is greater than the spherical radius defined by the outer surface of the socket insert, features that are contrary to the teaching of Serbousek that the tapers 30, 44 must necessarily be equal to one another to "provide a connection that ensures . . . accurate alignment between shell 12 and liner 14". (See paragraph [0035]; emphasis added). Likewise, the recitation in independent claim 30 that the tapered inner surface of the socket shell is conical (i.e., defining a straight taper) and the tapered outer surface of the socket insert is spherical (i.e., defining a curved taper) is also contrary to the teaching of Serbousek that the tapers 30, 44 must necessarily be equal to one another to "provide a connection that ensures . . . accurate alignment between shell 12 and liner 14".

Third, the Examiner's assertion that "Serbousek et al. clearly discloses (sic) the concurrent use of different radii of curvature within the scope of the invention . . by stating 'A curved locking taper is achieved when *the acute angles* between **tangents** to the curve *over much of its length and perpendicular to rim 40 are greater than zero degrees and do not exceed about seven degrees*'" appears to be a mischaracterization of Serbousek. (See bottom of page 11 to top of page 12 of the Examiner's Answer; emphasis in original). Although the Examiner admits that "Serbousek et al. did not illustrate the disclosed curved locking taper" (see page 12, lines 2-3 of

the Examiner's Answer), the Examiner provides several illustrations of "possible configurations" of "the intended configuration of the disclosed curved taper". (See page 12, lines 4-8 of the Examiner's Answer). In each of these illustrations, the radius of curvatures defined by the tapers 30, 44 are shown as being significantly different from one another. However, as indicated above, differing configurations of the tapers 30, 44 are not contemplated by Serbousek. Instead, the disclosures of Serbousek dictate that the mating tapers 30, 44 are equal to one another. Indeed, as set forth above, Serbousek teaches that both of the tapers 30, 44 may define a straight taper or they both may define a curved taper (see paragraph [0034]), and "[i]f the taper 44 of outside surface 32 of liner 14 is straight, taper 30 of side wall 26 of shell 12 is also straight" (see paragraph [0034]), and that the tapers 30, 44 must be configured identical to one another to "provide a connection that ensures . . . accurate alignment between shell 12 and liner 14" (see paragraph [0035]; dictating that the mating tapers 30, 44 must be configured identical to one another to ensure a single predetermined "accurate alignment" between the shell 12 and the liner 14).

Moreover, the Appellant submits that the Examiner appears to have incorrectly interpreted and/or mischaracterized the language set forth in paragraph [0035] of Serbousek which states that "[a] curved locking taper is achieved when the acute angles between tangents to the curve over much of its length and perpendicular to rim 40 are greater than zero degrees and do not exceed about seven degrees". A more plausible literal interpretation of this language is illustrated in Figure A below wherein if the matching tapers 30, 44 are each provided with a curved locking taper, then the curvature must be relatively shallow (i.e., having a relatively large radius of curvature) in order to allow for a mating interlock between the matching tapers 30, 44. The interpretation illustrated in Figure A illustrates that the acute angle α between two tangents to the curve falls between zero (i.e., a straight line) and seven degrees (i.e., a relatively shallow curve). This interpretation is consistent with the previous sentence in paragraph [0035] of Serbousek which indicates that if the tapers 30, 44 are each provided with straight taper, the straight tapers must also fall between zero degrees and seven degrees.

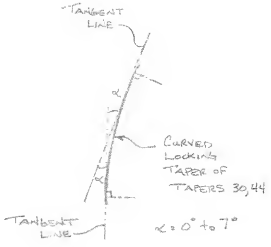

Figure A

For at least these reasons, the Appellant submits that independent claims 5, 19, 30 and 34 are not anticipated by Serbousek, and that the claims depending therefrom are also not anticipated by Serbousek or rendered obvious over Serbousek or in further view of Shelly.

In summary, the Appellant submits that claims 5-10 and 12-34 are patentable under 35 U.S.C. § 112, second paragraph, 35 U.S.C. § 102(b), 35 U.S.C. § 103(a), and/or the doctrine of nonstatutory obviousness-type double patenting.

CONCLUSION

For at least the reasons set forth in the Appeal Brief and in this Reply Brief, the Appellant submits that the current grounds of rejection regarding claims 5-10 and 12-34 are intrinsically flawed. The Appellant therefore respectfully request that the Board reverse each of the rejections of pending claims 5-10 and 12-34 and allow the subject application.

Respectfully submitted,

By: _____

Brad A. Schepers
Reg. No. 45,431
Krieg DeVault LLP
One Indiana Square, Suite 2800
Indianapolis, Indiana 46204-2079
Phone: (317) 238-6334 (voice)